Proton Production Cross Sections for Reactions Induced by 300 and 392 MeV Protons

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Multistep direct processes in proton production reactions were investigated with proton beam of 300 and 392 MeV bombarding targets nuclei: ^{159}Tb, ^{181}Ta, ^{197}Au, and so on. Energy spectra were measured at several laboratory angles from 20° to 105° and compared with two theoretical models, the quantum molecular dynamics and the intranuclear cascade model. At intermediate energy, the double differential cross section is sensitive to ground state in codes. Then we found that a more realistic ground state led better accounting of measured data.

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